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## LISTE DE SEQUENCES

<110> CNRS  
UNIVERSITE DE RENNES I  
UNIVERSITE PAUL SABATIER TOULOUSE III

<120> NOUVELLES SEQUENCES PHOSPHORYLEES DE LA PHOSPHATASE CDC25B,  
ANTICORPS DIRIGES CONTRE CES SEQUENCES AINSI QUE  
LEUR UTILISATION

<130> WOB 03 BH CNR CD25

<150> FR 03/07095  
<151> 2003-06-12

<160> 7

<170> PatentIn version 3.1

<210> 1  
<211> 19  
<212> PRT  
<213> homo sapiens

<220>  
<221> MOD\_RES  
<222> (10)..(10)  
<223> PHOSPHORYLATION

<400> 1  
Thr Pro Val Gln Asn Lys Arg Arg Arg Ser Val Thr Pro Pro Glu Glu  
1 5 10 15

Gln Gln Glu

<210> 2  
<211> 14  
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<213> homo sapiens

<220>  
<221> MOD\_RES  
<222> (7)..(7)  
<223> PHOSPHORYLATION

<400> 2  
Gln Asn Lys Arg Arg Arg Ser Val Thr Pro Pro Glu Glu Gln  
1 5 10

<210> 3  
<211> 566  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (339)..(339)  
<223> PHOSPHORYLATION

<400> 3  
Met Glu Val Pro Gln Pro Glu Pro Ala Pro Gly Ser Ala Leu Ser Pro  
1 5 10 15  
Ala Gly Val Cys Gly Gly Ala Gln Arg Pro Gly His Leu Pro Gly Leu  
20 25 30  
Leu Leu Gly Ser His Gly Leu Leu Gly Ser Pro Val Arg Ala Ala Ala  
35 40 45  
Ser Ser Pro Val Thr Thr Leu Thr Gln Thr Met His Asp Leu Ala Gly  
50 55 60  
Leu Gly Ser Arg Ser Arg Leu Thr His Leu Ser Leu Ser Arg Arg Ala  
65 70 75 80  
Ser Glu Ser Ser Leu Ser Ser Glu Ser Ser Glu Ser Ser Asp Ala Gly  
85 90 95  
Leu Cys Met Asp Ser Pro Ser Pro Met Asp Pro His Met Ala Glu Gln  
100 105 110  
Thr Phe Glu Gln Ala Ile Gln Ala Ala Ser Arg Ile Ile Arg Asn Glu  
115 120 125  
Gln Phe Ala Ile Arg Arg Phe Gln Ser Met Pro Val Arg Leu Leu Gly  
130 135 140  
His Ser Pro Val Leu Arg Asn Ile Thr Asn Ser Gln Ala Pro Asp Gly  
145 150 155 160  
Arg Arg Lys Ser Glu Ala Gly Ser Gly Ala Ala Ser Ser Ser Gly Glu  
165 170 175  
Asp Lys Glu Asn Asp Gly Phe Val Phe Lys Met Pro Trp Lys Pro Thr  
180 185 190  
His Pro Ser Ser Thr His Ala Leu Ala Glu Trp Ala Ser Arg Arg Glu  
195 200 205  
Ala Phe Ala Gln Arg Pro Ser Ser Ala Pro Asp Leu Met Cys Leu Ser  
210 215 220  
Pro Asp Arg Lys Met Glu Val Glu Glu Leu Ser Pro Leu Ala Leu Gly  
225 230 235 240  
Arg Phe Ser Leu Thr Pro Ala Glu Gly Asp Thr Glu Glu Asp Asp Gly  
245 250 255  
Phe Val Asp Ile Leu Glu Ser Asp Leu Lys Asp Asp Asp Ala Val Pro  
260 265 270  
Pro Gly Met Glu Ser Leu Ile Ser Ala Pro Leu Val Lys Thr Leu Glu  
275 280 285  
Lys Glu Glu Glu Lys Asp Leu Val Met Tyr Ser Lys Cys Gln Arg Leu  
290 295 300  
Phe Arg Ser Pro Ser Met Pro Cys Ser Val Ile Arg Pro Ile Leu Lys  
305 310 315 320

Arg Leu Glu Arg Pro Gln Asp Arg Asp Thr Pro Val Gln Asn Lys Arg  
325 330 335

Arg Arg Ser Val Thr Pro Pro Glu Glu Gln Gln Glu Ala Glu Glu Pro  
340 345 350

Lys Ala Arg Val Leu Arg Ser Lys Ser Leu Cys His Asp Glu Ile Glu  
355 360 365

Asn Leu Leu Asp Ser Asp His Arg Glu Leu Ile Gly Asp Tyr Ser Lys  
370 375 380

Ala Phe Leu Leu Gln Thr Val Asp Gly Lys His Gln Asp Leu Lys Tyr  
385 390 395 400

Ile Ser Pro Glu Thr Met Val Ala Leu Leu Thr Gly Lys Phe Ser Asn  
405 410 415

Ile Val Asp Lys Phe Val Ile Val Asp Cys Arg Tyr Pro Tyr Glu Tyr  
420 425 430

Glu Gly Gly His Ile Lys Thr Ala Val Asn Leu Pro Leu Glu Arg Asp  
435 440 445

Ala Glu Ser Phe Leu Leu Lys Ser Pro Ile Ala Pro Cys Ser Leu Asp  
450 455 460

Lys Arg Val Ile Leu Ile Phe His Cys Glu Phe Ser Ser Glu Arg Gly  
465 470 475 480

Pro Arg Met Cys Arg Phe Ile Arg Glu Arg Asp Arg Ala Val Asn Asp  
485 490 495

Tyr Pro Ser Leu Tyr Tyr Pro Glu Met Tyr Ile Leu Lys Gly Gly Tyr  
500 505 510

Lys Glu Phe Phe Pro Gln His Pro Asn Phe Cys Glu Pro Gln Asp Tyr  
515 520 525

Arg Pro Met Asn His Glu Ala Phe Lys Asp Glu Leu Lys Thr Phe Arg  
530 535 540

Leu Lys Thr Arg Ser Trp Ala Gly Glu Arg Ser Arg Arg Glu Leu Cys  
545 550 555 560

Ser Arg Leu Gln Asp Gln  
565

<210> 4

<211> 539

<212> PRT

<213> Homo sapiens

<220>

<221> MOD\_RES

<222> (312)..(312)

<223> PHOSPHORYLATION

<400> 4  
Met Glu Val Pro Gln Pro Glu Pro Ala Pro Gly Ser Ala Leu Ser Pro  
1 5 10 15  
Ala Gly Val Cys Gly Gly Ala Gln Arg Pro Gly His Leu Pro Gly Leu  
20 25 30  
Leu Leu Gly Ser His Gly Leu Leu Gly Ser Pro Val Arg Ala Ala Ala  
35 40 45  
Ser Ser Pro Val Thr Thr Leu Thr Gln Thr Met His Asp Leu Ala Gly  
50 55 60  
Leu Gly Ser Glu Thr Pro Lys Ser Gln Val Gly Thr Leu Leu Phe Arg  
65 70 75 80  
Ser Arg Ser Arg Leu Thr His Leu Ser Leu Ser Arg Arg Ala Ser Glu  
85 90 95  
Ser Ser Leu Ser Ser Glu Ser Ser Glu Ser Ser Asp Ala Gly Leu Cys  
100 105 110  
Met Asp Ser Pro Ser Pro Met Asp Pro His Met Ala Glu Gln Thr Phe  
115 120 125  
Glu Gln Ala Ile Gln Ala Ala Ser Arg Ile Ile Arg Asn Glu Gln Phe  
130 135 140  
Ala Ile Arg Arg Phe Gln Ser Met Pro Asp Gly Phe Val Phe Lys Met  
145 150 155 160  
Pro Trp Lys Pro Thr His Pro Ser Ser Thr His Ala Leu Ala Glu Trp  
165 170 175  
Ala Ser Arg Arg Glu Ala Phe Ala Gln Arg Pro Ser Ser Ala Pro Asp  
180 185 190  
Leu Met Cys Leu Ser Pro Asp Arg Lys Met Glu Val Glu Glu Leu Ser  
195 200 205  
Pro Leu Ala Leu Gly Arg Phe Ser Leu Thr Pro Ala Glu Gly Asp Thr  
210 215 220  
Glu Glu Asp Asp Gly Phe Val Asp Ile Leu Glu Ser Asp Leu Lys Asp  
225 230 235 240  
Asp Asp Ala Val Pro Pro Gly Met Glu Ser Leu Ile Ser Ala Pro Leu  
245 250 255  
Val Lys Thr Leu Glu Lys Glu Glu Lys Asp Leu Val Met Tyr Ser  
260 265 270  
Lys Cys Gln Arg Leu Phe Arg Ser Pro Ser Met Pro Cys Ser Val Ile  
275 280 285  
Arg Pro Ile Leu Lys Arg Leu Glu Arg Pro Gln Asp Arg Asp Thr Pro  
290 295 300  
Val Gln Asn Lys Arg Arg Arg Ser Val Thr Pro Pro Glu Glu Gln Gln  
305 310 315 320

Glu Ala Glu Glu Pro Lys Ala Arg Val Leu Arg Ser Lys Ser Leu Cys  
 325 330 335

His Asp Glu Ile Glu Asn Leu Leu Asp Ser Asp His Arg Glu Leu Ile  
 340 345 350

Gly Asp Tyr Ser Lys Ala Phe Leu Leu Gln Thr Val Asp Gly Lys His  
 355 360 365

Gln Asp Leu Lys Tyr Ile Ser Pro Glu Thr Met Val Ala Leu Leu Thr  
 370 375 380

Gly Lys Phe Ser Asn Ile Val Asp Lys Phe Val Ile Val Asp Cys Arg  
 385 390 395 400

Tyr Pro Tyr Glu Tyr Glu Gly Gly His Ile Lys Thr Ala Val Asn Leu  
 405 410 415

Pro Leu Glu Arg Asp Ala Glu Ser Phe Leu Leu Lys Ser Pro Ile Ala  
 420 425 430

Pro Cys Ser Leu Asp Lys Arg Val Ile Leu Ile Phe His Cys Glu Phe  
 435 440 445

Ser Ser Glu Arg Gly Pro Arg Met Cys Arg Phe Ile Arg Glu Arg Asp  
 450 455 460

Arg Ala Val Asn Asp Tyr Pro Ser Leu Tyr Tyr Pro Glu Met Tyr Ile  
 465 470 475 480

Leu Lys Gly Gly Tyr Lys Glu Phe Phe Pro Gln His Pro Asn Phe Cys  
 485 490 495

Glu Pro Gln Asp Tyr Arg Pro Met Asn His Glu Ala Phe Lys Asp Glu  
 500 505 510

Leu Lys Thr Phe Arg Leu Lys Thr Arg Ser Trp Ala Gly Glu Arg Ser  
 515 520 525

Arg Arg Glu Leu Cys Ser Arg Leu Gln Asp Gln  
 530 535

<210> 5  
 <211> 580  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MOD\_RES  
 <222> (353)..(353)  
 <223> PHOSPHORYLATION

<400> 5  
 Met Glu Val Pro Gln Pro Glu Pro Ala Pro Gly Ser Ala Leu Ser Pro  
 1 5 10 15

Ala Gly Val Cys Gly Gly Ala Gln Arg Pro Gly His Leu Pro Gly Leu  
 20 25 30

Leu Leu Gly Ser His Gly Leu Leu Gly Ser Pro Val Arg Ala Ala Ala  
35 40 45

Ser Ser Pro Val Thr Thr Leu Thr Gln Thr Met His Asp Leu Ala Gly  
50 55 60

Leu Gly Ser Glu Thr Pro Lys Ser Gln Val Gly Thr Leu Leu Phe Arg  
65 70 75 80

Ser Arg Ser Arg Leu Thr His Leu Ser Leu Ser Arg Arg Ala Ser Glu  
85 90 95

Ser Ser Leu Ser Ser Glu Ser Ser Glu Ser Ser Asp Ala Gly Leu Cys  
100 105 110

Met Asp Ser Pro Ser Pro Met Asp Pro His Met Ala Glu Gln Thr Phe  
115 120 125

Glu Gln Ala Ile Gln Ala Ala Ser Arg Ile Ile Arg Asn Glu Gln Phe  
130 135 140

Ala Ile Arg Arg Phe Gln Ser Met Pro Val Arg Leu Leu Gly His Ser  
145 150 155 160

Pro Val Leu Arg Asn Ile Thr Asn Ser Gln Ala Pro Asp Gly Arg Arg  
165 170 175

Lys Ser Glu Ala Gly Ser Gly Ala Ala Ser Ser Ser Gly Glu Asp Lys  
180 185 190

Glu Asn Asp Gly Phe Val Phe Lys Met Pro Trp Lys Pro Thr His Pro  
195 200 205

Ser Ser Thr His Ala Leu Ala Glu Trp Ala Ser Arg Arg Glu Ala Phe  
210 215 220

Ala Gln Arg Pro Ser Ser Ala Pro Asp Leu Met Cys Leu Ser Pro Asp  
225 230 235 240

Arg Lys Met Glu Val Glu Glu Leu Ser Pro Leu Ala Leu Gly Arg Phe  
245 250 255

Ser Leu Thr Pro Ala Glu Gly Asp Thr Glu Glu Asp Asp Gly Phe Val  
260 265 270

Asp Ile Leu Glu Ser Asp Leu Lys Asp Asp Asp Ala Val Pro Pro Gly  
275 280 285

Met Glu Ser Leu Ile Ser Ala Pro Leu Val Lys Thr Leu Glu Lys Glu  
290 295 300

Glu Glu Lys Asp Leu Val Met Tyr Ser Lys Cys Gln Arg Leu Phe Arg  
305 310 315 320

Ser Pro Ser Met Pro Cys Ser Val Ile Arg Pro Ile Leu Lys Arg Leu  
325 330 335

Glu Arg Pro Gln Asp Arg Asp Thr Pro Val Gln Asn Lys Arg Arg Arg  
340 345 350

Ser Val Thr Pro Pro Glu Glu Gln Gln Glu Ala Glu Glu Pro Lys Ala  
355 360 365

Arg Val Leu Arg Ser Lys Ser Leu Cys His Asp Glu Ile Glu Asn Leu  
370 375 380

Leu Asp Ser Asp His Arg Glu Leu Ile Gly Asp Tyr Ser Lys Ala Phe  
385 390 395 400

Leu Leu Gln Thr Val Asp Gly Lys His Gln Asp Leu Lys Tyr Ile Ser  
405 410 415

Pro Glu Thr Met Val Ala Leu Leu Thr Gly Lys Phe Ser Asn Ile Val  
420 425 430

Asp Lys Phe Val Ile Val Asp Cys Arg Tyr Pro Tyr Glu Tyr Glu Gly  
435 440 445

Gly His Ile Lys Thr Ala Val Asn Leu Pro Leu Glu Arg Asp Ala Glu  
450 455 460

Ser Phe Leu Leu Lys Ser Pro Ile Ala Pro Cys Ser Leu Asp Lys Arg  
465 470 475 480

Val Ile Leu Ile Phe His Cys Glu Phe Ser Ser Glu Arg Gly Pro Arg  
485 490 495

Met Cys Arg Phe Ile Arg Glu Arg Asp Arg Ala Val Asn Asp Tyr Pro  
500 505 510

Ser Leu Tyr Tyr Pro Glu Met Tyr Ile Leu Lys Gly Gly Tyr Lys Glu  
515 520 525

Phe Phe Pro Gln His Pro Asn Phe Cys Glu Pro Gln Asp Tyr Arg Pro  
530 535 540

Met Asn His Glu Ala Phe Lys Asp Glu Leu Lys Thr Phe Arg Leu Lys  
545 550 555 560

Thr Arg Ser Trp Ala Gly Glu Arg Ser Arg Arg Glu Leu Cys Ser Arg  
565 570 575

Leu Gln Asp Gln  
580

<210> 6  
<211> 601  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MOD\_RES  
<222> (374)...(374)  
<223> PHOSPHORYLATION

<400> 6  
Met Glu Val Pro Gln Pro Glu Pro Ala Pro Gly Ser Ala Leu Ser Pro  
1 5 10 15

Ala Gly Val Cys Gly Gly Ala Gln Arg Pro Gly His Leu Pro Gly Leu  
20 25 30

Leu Leu Gly Ser His Gly Leu Leu Gly Ser Pro Val Arg Ala Ala Ala  
35 40 45

Ser Ser Pro Val Thr Thr Leu Thr Gln Thr Met His Asp Leu Ala Gly  
50 55 60

Leu Gly Ser Arg Ser Arg Leu Thr His Leu Ser Leu Ser Arg Arg Ala  
65 70 75 80

Ser Glu Ser Ser Leu Ser Ser Glu Ser Ser Glu Ser Ser Asp Ala Gly  
85 90 95

Leu Cys Met Asp Ser Pro Ser Pro Met Asp Pro His Met Ala Glu Gln  
100 105 110

Thr Phe Glu Gln Ala Ile Gln Ala Ala Ser Arg Ile Ile Arg Asn Glu  
115 120 125

Gln Phe Ala Ile Arg Arg Phe Gln Ser Met Pro Val Arg Leu Leu Gly  
130 135 140

His Ser Pro Val Leu Arg Asn Ile Thr Asn Ser Gln Ala Pro Asp Gly  
145 150 155 160

Arg Arg Lys Ser Glu Ala Gly Ser Gly Ala Ala Ser Ser Ser Gly Glu  
165 170 175

Asp Lys Glu Asn Val Arg Phe Trp Lys Ala Gly Val Gly Ala Leu Arg  
180 185 190

Glu Glu Glu Gly Ala Cys Trp Gly Gly Ser Leu Ala Cys Glu Asp Pro  
195 200 205

Pro Leu Pro Ser Trp Leu Gln Asp Gly Phe Val Phe Lys Met Pro Trp  
210 215 220

Lys Pro Thr His Pro Ser Ser Thr His Ala Leu Ala Glu Trp Ala Ser  
225 230 235 240

Arg Arg Glu Ala Phe Ala Gln Arg Pro Ser Ser Ala Pro Asp Leu Met  
245 250 255

Cys Leu Ser Pro Asp Arg Lys Met Glu Val Glu Glu Leu Ser Pro Leu  
260 265 270

Ala Leu Gly Arg Phe Ser Leu Thr Pro Ala Glu Gly Asp Thr Glu Glu  
275 280 285

Asp Asp Gly Phe Val Asp Ile Leu Glu Ser Asp Leu Lys Asp Asp Asp  
290 295 300

Ala Val Pro Pro Gly Met Glu Ser Leu Ile Ser Ala Pro Leu Val Lys  
305 310 315 320

Thr Leu Glu Lys Glu Glu Lys Asp Leu Val Met Tyr Ser Lys Cys  
325 330 335

Gln Arg Leu Phe Arg Ser Pro Ser Met Pro Cys Ser Val Ile Arg Pro  
 340 345 350  
 Ile Leu Lys Arg Leu Glu Arg Pro Gln Asp Arg Asp Thr Pro Val Gln  
 355 360 365  
 Asn Lys Arg Arg Arg Ser Val Thr Pro Pro Glu Glu Gln Gln Glu Ala  
 370 375 380  
 Glu Glu Pro Lys Ala Arg Val Leu Arg Ser Lys Ser Leu Cys His Asp  
 385 390 395 400  
 Glu Ile Glu Asn Leu Leu Asp Ser Asp His Arg Glu Leu Ile Gly Asp  
 405 410 415  
 Tyr Ser Lys Ala Phe Leu Leu Gln Thr Val Asp Gly Lys His Gln Asp  
 420 425 430  
 Leu Lys Tyr Ile Ser Pro Glu Thr Met Val Ala Leu Leu Thr Gly Lys  
 435 440 445  
 Phe Ser Asn Ile Val Asp Lys Phe Val Ile Val Asp Cys Arg Tyr Pro  
 450 455 460  
 Tyr Glu Tyr Glu Gly Gly His Ile Lys Thr Ala Val Asn Leu Pro Leu  
 465 470 475 480  
 Glu Arg Asp Ala Glu Ser Phe Leu Leu Lys Ser Pro Ile Ala Pro Cys  
 485 490 495  
 Ser Leu Asp Lys Arg Val Ile Leu Ile Phe His Cys Glu Phe Ser Ser  
 500 505 510  
 Glu Arg Gly Pro Arg Met Cys Arg Phe Ile Arg Glu Arg Asp Arg Ala  
 515 520 525  
 Val Asn Asp Tyr Pro Ser Leu Tyr Tyr Pro Glu Met Tyr Ile Leu Lys  
 530 535 540  
 Gly Gly Tyr Lys Glu Phe Phe Pro Gln His Pro Asn Phe Cys Glu Pro  
 545 550 555 560  
 Gln Asp Tyr Arg Pro Met Asn His Glu Ala Phe Lys Asp Glu Leu Lys  
 565 570 575  
 Thr Phe Arg Leu Lys Thr Arg Ser Trp Ala Gly Glu Arg Ser Arg Arg  
 580 585 590  
 Glu Leu Cys Ser Arg Leu Gln Asp Gln  
 595 600

<210> 7  
 <211> 588  
 <212> PRT  
 <213> Homo sapiens  
  
 <220>  
 <221> MOD\_RES  
 <222> (361)..(361)  
 <223> PHOSPHORYLATION

&lt;400&gt; 7

Met Glu Val Pro Gln Pro Glu Pro Ala Pro Gly Ser Ala Leu Ser Pro  
1 5 10 15

Ala Gly Val Cys Gly Gly Ala Gln Arg Pro Gly His Leu Pro Gly Leu  
20 25 30

Leu Leu Gly Ser His Gly Leu Leu Gly Ser Pro Val Arg Ala Ala Ala  
35 40 45

Ser Ser Pro Val Thr Thr Leu Thr Gln Thr Met His Asp Leu Ala Gly  
50 55 60

Leu Gly Ser Glu Thr Pro Lys Ser Gln Val Gly Thr Leu Leu Phe Arg  
65 70 75 80

Ser Arg Ser Arg Leu Thr His Leu Ser Leu Ser Arg Arg Ala Ser Glu  
85 90 95

Ser Ser Leu Ser Ser Glu Ser Ser Glu Ser Ser Asp Ala Gly Leu Cys  
100 105 110

Met Asp Ser Pro Ser Pro Met Asp Pro His Met Ala Glu Gln Thr Phe  
115 120 125

Glu Gln Ala Ile Gln Ala Ala Ser Arg Ile Ile Arg Asn Glu Gln Phe  
130 135 140

Ala Ile Arg Arg Phe Gln Ser Met Pro Val Arg Leu Leu Gly His Ser  
145 150 155 160

Pro Val Leu Arg Asn Ile Thr Asn Ser Gln Ala Pro Asp Gly Arg Arg  
165 170 175

Lys Ser Glu Ala Gly Ser Gly Ala Ala Ser Ser Ser Gly Glu Asp Lys  
180 185 190

Glu Asn Val Arg Phe Trp Lys Ala Gly Val Gly Ala Leu Arg Glu Glu  
195 200 205

Glu Gly Ala Cys Trp Gly Gly Ser Leu Ala Cys Glu Asp Pro Pro Leu  
210 215 220

Pro Ser Trp Leu Gln Asp Gly Phe Val Phe Lys Met Pro Trp Lys Pro  
225 230 235 240

Thr His Pro Ser Ser Thr His Ala Leu Ala Glu Trp Ala Ser Arg Arg  
245 250 255

Glu Ala Phe Ala Gln Arg Pro Ser Ser Ala Pro Asp Leu Met Cys Leu  
260 265 270

Ser Pro Asp Arg Lys Met Glu Val Glu Glu Leu Ser Pro Leu Ala Leu  
275 280 285

Gly Arg Phe Ser Leu Thr Pro Ala Glu Gly Asp Thr Glu Glu Asp Asp  
290 295 300

Gly Phe Val Asp Ile Leu Glu Ser Asp Leu Lys Asp Leu Val Met Tyr  
305 310 315 320

Ser Lys Cys Gln Arg Leu Phe Arg Ser Pro Ser Met Pro Cys Ser Val  
325 330 335

Ile Arg Pro Ile Leu Lys Arg Leu Glu Arg Pro Gln Asp Arg Asp Thr  
340 345 350

Pro Val Gln Asn Lys Arg Arg Arg Ser Val Thr Pro Pro Glu Glu Gln  
355 360 365

Gln Glu Ala Glu Glu Pro Lys Ala Arg Val Leu Arg Ser Lys Ser Leu  
370 375 380

Cys His Asp Glu Ile Glu Asn Leu Leu Asp Ser Asp His Arg Glu Leu  
385 390 395 400

Ile Gly Asp Tyr Ser Lys Ala Phe Leu Leu Gln Thr Val Asp Gly Lys  
405 410 415

His Gln Asp Leu Lys Tyr Ile Ser Pro Glu Thr Met Val Ala Leu Leu  
420 425 430

Thr Gly Lys Phe Ser Asn Ile Val Asp Lys Phe Val Ile Val Asp Cys  
435 440 445

Arg Tyr Pro Tyr Glu Tyr Glu Gly Gly His Ile Lys Thr Ala Val Asn  
450 455 460

Leu Pro Leu Glu Arg Asp Ala Glu Ser Phe Leu Leu Lys Ser Pro Ile  
465 470 475 480

Ala Pro Cys Ser Leu Asp Lys Arg Val Ile Leu Ile Phe His Cys Glu  
485 490 495

Phe Ser Ser Glu Arg Gly Pro Arg Met Cys Arg Phe Ile Arg Glu Arg  
500 505 510

Asp Arg Ala Val Asn Asp Tyr Pro Ser Leu Tyr Tyr Pro Glu Met Tyr  
515 520 525

Ile Leu Lys Gly Gly Tyr Lys Glu Phe Phe Pro Gln His Pro Asn Phe  
530 535 540

Cys Glu Pro Gln Asp Tyr Arg Pro Met Asn His Glu Ala Phe Lys Asp  
545 550 555 560

Glu Leu Lys Thr Phe Arg Leu Lys Thr Arg Ser Trp Ala Gly Glu Arg  
565 570 575

Ser Arg Arg Glu Leu Cys Ser Arg Leu Gln Asp Gln  
580 585